Aurora Organic Dairy
Comments to National Organic Standards Board and National Organic Program
Part 1 of 2
February 11, 2005

Introduction:

These comments are respectfully submitted to NOSB and NOP to provide information and our company's perspective on several issues leading up to the meeting of NOSB on 2-28-05.

We are submitting these comments in two parts. This document is Part 1 of 2 and gives some general comments and perspectives on various aspects of NOP as it affects organic dairy production.

In the second part, to be submitted shortly, we will make specific comments on the Livestock Committee Recommendation, Pasture Requirements for the National Organic Program. We will also provide answers to several questions sent to us on 2-10-05 by NOSB Chairman Jim Riddle.

Company Overview:

Aurora Dairy Corporation, dba Aurora Organic Dairy, was founded in 1988 and underwent a major expansion and conversion to organic in 2003. The company has headquarters in Boulder, Colorado and operates organic dairy farms in Colorado and Texas. The company also operates a dedicated organic milk plant in Colorado, with plant code #08-29. This plant processes both regular pasteurized (HTST) and ultra-pasteurized (UP) fluid milk in half-gallon paperboard cartons. The company makes private label organic milk for retail stores. The company also sells organic bulk farm milk, organic nonfat dry milk powder, organic cream and organic butter.

On the company's two organic dairy farms and partner facilities there are 4,250 organic milking cows, an additional 950 milk cows currently in transition to organic, plus dry cows, heifers and calves. The current annualized organic milk production is about 10 million gallons, or 880,000 cwt. The company manages about 2,900 acres of irrigated organic pasture and 12,000 acres of organic native grassland pasture. The company's facilities are certified organic by Quality Assurance International and the Colorado Department of Agriculture. Many different organic farmer partners in Colorado, Texas and surrounding states provide forage and feed for the company, as well as organic replacement heifers and other services. Altogether the company supports about 50,000 acres of organic agriculture.

The company employs a total of 160, with 118 employees on the two organic dairy farms. The executive team of the company includes the following personnel:

Marc Peperzak	Chairman and CEO
Mark Retzloff	President and Chief 'Organic' Officer
Jay Wilson	Senior VP and Chief Operating Officer
Clark Driftmier	Senior VP of Marketing
Scott McGinty	VP of Business Development
Sally Keefe	VP of Logistics
Cindy Price	VP of Accounting and Finance
Dr. Juan Velez	General Manager – Farms
Peggy Gnoza	Plant Manager
Donna Getman	Corporate Secretary

1. Support for the rule. Aurora Organic Dairy is actively supporting the organic movement and the NOP. We currently comply fully with all NOP rules. In the future we will, without hesitation, comply with interpretations of the rule and the guidance documents issued by NOP. We support the process of discussion, research and science-based review that will be required for issuing a comprehensive guidance document for organic pasture.

   The leaders of our company have made many contributions to the development of the organic movement as a whole, the organic dairy category and the overall dairy industry. These contributions include:

   a) Company founders have over 35 years of experience building the organic movement and creating new organic opportunities.
   b) The founders engaged in significant work in 1989 and 1990 helping the organic movement to push for the original Organic Foods Production Act as part of the 1990 farm bill. Our founders volunteered both time and personal finances to help with the success of this effort.
   c) Contributions, both in volunteer time and in financial support, to help form the Organic Trade Association as a strong unified voice for organic progress.
   d) Volunteer service to the organic movement and the Organic Trade Association, including positions as OTA president and as chair of the governmental affairs committee, including over 50 trips to Washington DC to assist with legislation beneficial to organic.
   e) Volunteer service to help create The Organic Center for Education and Promotion, the first organic research organization dedicated to providing science-based research to help prove the organic benefit. Aurora Organic Dairy is the only company to have two of its officers serve on the board of The Organic Center.
   f) Brand-building efforts at Horizon Organic Dairy to create the first national organic diary brand. As a result, a significantly greater market for organic farm milk was developed and many organic milk producers found an increased outlet for their farm milk.
   g) Assistance with the development of over 70,000 acres of organic agriculture in Idaho, This increase in organic acreage resulted from the conversion of a conventional Idaho dairy farm to organic beginning in 1994.
   h) Assistance with the development of over 50,000 acres of organic agriculture in Colorado and surrounding states resulting from the conversion of a conventional dairy farm in Colorado to organic beginning in 2003.
   i) Adoption of many innovative management practices in organic dairying, such as the switch from artificial insemination to natural breeding and the elimination of synthetics such as Ivermectin, to help build a healthy and productive organic dairy herd.

   In all of these activities, our company, its founders and our employees strive to be productive and conscientious members of the organic community, both past, present and into the future.

2. AOD Pasture Plans. Our company is in full compliance with the NOP rules as currently interpreted. Looking to the future, we are developing both short-term and longer-term plans to significantly increase the amount of pasture available to all of our cows at every stage of life and reproduction, including during lactation. This pasture includes both irrigated pasture and also native grassland pasture.

   NOSB recommendations and NOP guidance documents for pasture need to clarify and account for the different species of pasture plants and the different types of pasture, including native rangeland in the intermountain West. This grassland pasture is an excellent source of DMI, but it grows very differently from pasture in the Northeast, the Upper Midwest and the rainy West Coast. Grassland pasture can serve as a valuable component of an organic farm plan. In addition, the study of pasture needs to account for different amounts of rainfall and water resources, and include recommendations on how to optimize pasture in arid and water-short areas where water conservation is paramount.

   NOSB and USDA pasture policy needs to include extensive research backup regarding the impacts of total diet on animal health. Over the past 60 years, the genetic makeup of all breeds of milk cows has undergone extensive change. Per-cow milk productivity for all breeds is significantly higher than in previous generations, with a commensurate increase in the energy intake required to keep the animals healthy, strong and productive. This is true for the most common organic breeds such as Holsteins, Guernseys, Jerseys and Brown Swiss. For these animals of greater productivity, supplemental feeding is required, regardless of climate or season, to keep energy intake high enough to balance the animals' use of energy for milk production and general health. A study at University of Pennsylvania (Holden et al, 1994) concluded that springtime milk production dropped when there was insufficient supplemental feed in addition to pasture, and that by summer's end, cows fed primarily on pasture with insufficient supplemental feeding suffered low body condition. If a pasture policy with restrictive rules were to be implemented without a sufficient study of the impact of diet and health across climates, seasons and animal life stages, it could result in an imbalance of dietary intake and energy needs leading to decreased animal health.

   We believe that a comprehensive study of peer-reviewed studies needs to be conducted before there can be validation of the current NOSB pasture recommendation, submitted on February 1 2005, which asserts that pasture "provides preventative health care benefits." The body of science available in this area of research is both extensive and complex. Any valid conclusions regarding the possible effects of pasture on animal must be based on a comprehensive study of this science. For example, studies have shown that the switch from a mixed ration diet, such as that used in the wintertime in northern climates, to a summertime diet based primarily on pasture, leads to a decrease in body condition score and general health and is accompanied by a decrease in milk production. (Kolver and Muller, 1998). In another study, animals which were switched yearly from wintertime indoor confinement to summertime pasture were shown to have greater problems from hock joint alterations, a source of lameness, and teat injuries compared to animals maintained in a year-round system of open pens and loose housing. (Regula, Danuser, Spycher, Wechsler, 2004). On the other hand, there are undoubtedly studies which do, indeed, show that specific areas of animal health are improved via pasture-based systems. A thorough study of the research will help to clarify this important issue and we recommend that this study be undertaken at the earliest opportunity.

Another area of concern that we recommend studying pertains to the effects on both animal and human health from having pastured animals in contact with wildlife, leading to possible transmissions of communicable diseases. These diseases include brucellosis, tuberculosis and salmonella. Researchers (Renter et al., 2001) reported evidence of e.Coli O157:H7 in deer sharing pasture with cattle. Another study (Gnadd et al, 2000) reported Salmonella in deer sharing pasture with cattle. There is also evidence from Western Montana and Wyoming where beef cattle sharing pasture with bison have contracted brucellosis. None of this data necessarily invalidates a possible guidance document in pasture management, but it speaks strongly to the need to research the issue comprehensively, and also to allow for specific interpretation based on climate and geography to manage a pasture system effectively.

We welcome the study of all available information to make valid science-based decisions. However, the full set of data has not yet been assembled, nor has it been studied by experts in dairy science, animal science, veterinary science and agronomics to make firm and final conclusions regarding an optimum organic system. Any possible USDA guidance document regarding pasture policy must incorporate the full spectrum of research and the findings of these studies.

3. Animal Health is Paramount. All organic dairy producers care greatly about the health and welfare of our animals. In all of the review, discussion and analysis of the rule regarding "access to pasture," the #1 consideration should always be animal health.

   While some observers make the hasty conclusion that all animals on pasture-based management systems are healthier than all other animals, this is not necessarily the case. One cannot assume that a dairy cow is healthy unless objective measures of animal health are applied in a rigorous and scientific manner by trained animal health experts. The measures of animal health that should be incorporated in any valid study of the issue include the following:

   a) Body condition score.
   b) Somatic Cell Count (SCC).
   c) Percent of cows lying down.
   d) Percent of cows chewing cud.
   e) Integrity of skin.
   f) Percent of animals with lameness.
   g) Percent of animals with teat injuries.
   h) Rumen health.
   i) Percent of animals infected with pathogenic bacteria such as e.Coli O157:H7
   j) Percent of animals infected with parasites.
   k) Reproductive health.

   Any conclusions about the relative merits of different management practices to optimize animal health, including recommendations regarding pasture, must incorporate these measures. If any management practices are recommended or prescribed for the NOP or its guidance documents, they must demonstrate superiority across these measures to be considered truly better for animal health.

We recommend that USDA incorporate most or all of the above animal health measures in planning and preparation leading to issuing a guidance document for organic pasture. We also recommend, prior to making final determinations of policy, that audits of different organic dairy management practices be conducted to provide a baseline set of information to compare and contrast different management practices and their impacts on animal health.

4. Science-based Decisions. The review of information leading up the issuing a new guidance document on pasture should include a significant scientific analysis of research in the areas of dairy science, animal science, veterinary science and agronomics, including questions such as the following:
    i) What is the best mix of different feed sources, including pasture, to optimize both animal health and productivity?
    ii) What are the differences between different geographies and climates regarding diet and animal health, and how should diets be modified or enhanced to succeed in each geography?
    iii) Which mix of pasture and other feed rations best serves the different life stages of the cow? (newborn, older calf, heifer, milk cow etc)
    iv) Which mix of pasture and other feed rations best serves the different reproductive and lactation stages of the adult milk cow? (early-mid-late lactation, dry cow, etc).
    v) How are feed rations optimized for different breeds of milk cows?
    vi) What are the best objective and quantifiable measures of animal health and cow comfort to use when comparing different farm management systems and total feed programs, including pasture?
    vii) What should be the scientific approach to analyzing the undesirable synthetics currently used in organic agriculture? One prominent example is Ivermectin, a synthetically-produced parasiticide profiled below. There is also the problem of Oxytocin,a synthetic hormone used by many organic dairy producers for post-partum animal care.

5. Pasture & Parasites. One of the potential dichotomies of any recommendation regarding pasture is the problem of parasites and their management in the organic system. As the usage of pasture becomes more extensive, there is generally an increase in risk of infection from pathogenic parasites. However, the current organically-approved preferred treatment for parasite infection, Ivermectin, is a synthetically-derived chemical. Many in the organic community are calling for the prohibition of Ivermectin because its synthetic production is inconsistent with organic principles. However, there are currently no proven natural alternatives with similar effectiveness. The prohibition of an effective treatment and the increase in infection would lead to decreased animal health.

    The problem of organic parasite management is an important component of the discussion of pasture. A guidance document that prescribes greater pasture will lead to greater parasite infection unless there is also a comprehensive system of pasture management to help break the reproductive cycles of parasites.

6. No prescriptive rules. The interpretation of the rule and the implementation of approved farm plans should continue to allow for interpretive vs. prescriptive guidance to accommodate different geographies, climates, soils, local conditions and the like. There should not be prescriptive rules for stocking rates, DMI intake, or period of time.

The importance of providing for individual interpretation, rather than heavy prescription, dates back to the intent of the original OFPA in 1990, when the authors and staffers working on the Act were very deliberate in leaving significant interpretive latitude to certifiers. Those authors knew that over-prescriptive rules would lead to significant difficulties in effectively managing organic systems across a wide rage of conditions. A good example of this problem was the issue of compost, which has generally been considered a very difficult issue to manage effectively due to overly-prescriptive rules. Even the compost task force, chartered and worked upon with good faith and diligence, has not yet resulted in a satisfactory resolution of compost management issues. The best solution to these problems is to continue to allow certifiers to do their job with good faith and diligence and with the latitude to apply organic rules effectively across a very wide range of conditions.

Since the original laws were passed in 1990, the system of individual interpretation by certifier, system, climate and geography has worked effectively for the most part. More than 150 organic certifiers have been accredited by USDA and charged with performing the important task of implementing the NOP. Thousands of organic products, produced by tens of thousands of dedicated organic farmers, have entered both alternative and mainstream consumer markets. All of these developments have helped to make organic products much more available to U.S. consumers and have taken the organic movement from the outer fringe of American society to a place, if not at the center, then at least a little closer to the center of U.S. culture.

7. Organic in the Inter-Mountain West. We support the current overall philosophy of organic, which is to make organic agriculture and organic products successful and available in every geography and climate. The specific steps to implement an approved organic farm plan are very different in the Inter-mountain West vs. other regions and climates. One size does not fit all. All review and study leading up to a new guidance document should be done to make organic farm plans implement-able in every region, taking into account the myriad differences in climate, soil, rainfall, sunlight and the like which impact agriculture.

   The intermountain West has several natural advantages in organic dairying. Our dry environment is naturally lower in parasites, bacteria, animal diseases, plant diseases, destructive insects, and "bugs" in general. Weeds are less prevalent and require less expensive eradication. The climate is good for organic dairy animal health, with lots of sunshine (over 300 sunny days per year), fresh dry air for good ventilation and lung health and mild dry summers with lower heat / humidity index, leading to less heat stress. The winters are dry and sunny as well, allowing not just occasional "outside access" but nearly daily outside residence, resulting in much greater exercise compared to barn-confined animals elsewhere and lower rates of leg and foot problems. In terms of crops, many feed crops grow well here, especially forage crops, including some of the finest alfalfa hay in the country. Organic farming and dairying can be effectively managed with careful management of water resources along with an extensive understanding of the value of native grassland pasture as a component of the diet and its effective management.

8. Natural Breeding. Currently, most organic dairy farms use artificial insemination (AI) for reproduction. A few organic dairy farms use natural breeding. AI is inconsistent with organic principles for two main reasons. First, there is broad agreement that organic dairy policy should promote the principle of "natural behavior patterns." AI is much less true to this principle than natural breeding. A truly organic system would have organic dairy cows being serviced by bulls rather than by human intervention. Second, all of the bull semen

currently used in AI comes from the conventional dairy breeding industry and is treated with antibiotics. Clearly, the presence of antibiotics in such a core part of organic dairy – reproduction – is inconsistent with organic principles. In addition, it makes very tenuous the claim on most organic dairy product packages "Produced without Antibiotics." We call upon the NOSB livestock committee to take up the important issue of AI, leading to its prohibition and replacement with natural breeding.

9. Need to Address the Issue of Excessive Indoor Confinement. The guidance document regarding access to the outdoors currently allows excessive indoor confinement of dairy cows for extended periods, especially during the winter in colder, rainier climates. In many cases, animals are confined on wet concrete in tie stalls using chains. This indoor confinement has been documented to be damaging to animal health, leading to many health problems. These problems include increased incidence of leg health problems from lack of exercise (Regula, Danuser, Spycher, Wechsler, 2004). In addition, the health of animals confined in barns in wintertime is compromised by lack of exposure to sunlight, lack of ventilation and excessive exposure to dark, damp conditions. The results are greater incidence of lung problems, more foot rot and lower animal health in general. This issue needs further study as part of the overall goal of creating excellent animal health protocols for organic livestock.

10. Environmental Sustainability. Looking a little further into the future than the current NOP and its guidance documents, we in the organic community need to conduct more research and scientific study in overall environmental sustainability. More study needs to be done in areas such as renewable energy, waste water treatment, recycling and composting of solid waste, and a host of other sustainability programs.

    Currently the NOP rules do not include many of the broader components of sustainability. Over time, we believe that significant measures of environmental sustainability should be added to the NOP rules so that the management of organic systems can evolve from its current state to a more comprehensive system of sustainable agriculture.

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CFD 2-11-05

Aurora Organic Dairy Written Comments to NOSB Livestock Committee
Part 2 of 2
NOSB Livestock Committee Recommendation – Pasture Requirements
February 24, 2005

Aurora Organic Dairy, Boulder Colorado, ("AOD") respectfully submits the following comments to the NOSB Livestock Committee ("LC") Recommendation on Pasture Requirements posted on the NOP website on February 15, 2005.

In the AOD comments, the original LC text has been placed in ***Arial font, italics, bold text***. AOD comments are in regular text with Times New Roman font.

As a quick introduction, we want to express our appreciation to the NOSB and the Livestock Committee for the significant work its members have done since 2001 to help provide NOP with guidance regarding the complex and important topic of pasture management. We are also grateful for the chance to offer our analysis of the proposed recommendation. Finally, we appreciate the open process by which all stakeholders have the opportunity to express opinions in a professional setting characterized by scientific analysis, rational discourse and collegiality.

NOSB Livestock Committee Recommendation
Pasture Requirements for the National Organic Program
Feb 1, 2005

Introduction

The USDA National Organic Program (NOP) has requested NOSB provide guidance concerning the pasture requirements of the National Organic Program that the NOP then can review and distribute to accredited certifying agents and post on the NOP website.

The following recommendation is based on the NOSB's June 2000 and October 2001 pasture recommendations and the standards currently required under the NOP regulations, attached in addenda to this document. The NOP Final Rule defines "pasture" as "land used for livestock grazing that is managed to provide feed value and maintain or improve soil, water, and vegetative resources." 7 CFR 205.2. Pasturing is required under the Livestock Health Care Practice Standard (7 CFR 205.238) and under Livestock Living Conditions (7 CFR 239). The Final Rule provides that temporary confinement is allowed in certain circumstances. This recommendation will provide further guidance on the meaning of temporary confinement and stage of production.

As stated in the October 2001 NOSB recommendation, requiring pasture for ruminants ensures an organic production system which provides living conditions that allow animals to satisfy their natural behavior patterns, provides preventative health care benefits and answers the consumer expectation of humane animal care.

AOD:
Two important issues appear in this introduction: animal health and consumer expectations.

Regarding animal health, both the LC language of "natural behavior patterns" and the language of "preventative health care benefits" are measures of animal health. Thus, the critical determinant of whether any organic farm plan achieves the intended benefit for the care and humane treatment of its animals is animal health. In the organic realm, some in the organic community misinterpret the more in-depth aspects of ruminant nutrition and make a simplistic equation: more pasture = better health. Following this logic to its terminus, one might conclude that 100% pasture = best health, which animal health experts know not to be true. Because of centuries of domestication and genetic improvement in all

modern breeds of dairy cattle, any modern dairy cow fed on 100% pasture would quickly sink into ill health and dramatically lower body condition. Dairy operators who use pasture know that supplemental feeding is essential to animal health, and they combine pasture with several other feed elements to create an optimal feed mix for excellent animal health and productivity. Thus, organic dairy farmers implicitly acknowledge that the best diet for optimal health is a mixture of feed from forages, including pasture, and feed from other sources based on the nutrient requirements of the cow at any one of many different stages in its life and reproduction.

There is no preponderance of scientific evidence demonstrating that organic cows fed on a diet with a very high percentage of pasture are healthier then organic cows on a diet with relative lower percentages of pasture and higher percentages of other feed sources. By "health," we mean the systematic evaluations of animal condition across many different parameters as measured and recorded by an experienced animal-health expert, including:

a) Body condition score.
b) Somatic Cell Count (SCC).
c) Percent of cows lying down.
d) Percent of cows chewing cud.
e) Integrity of skin.
f) Percent of animals with lameness.
g) Percent of animals with teat injuries.
h) Rumen health.
i) Percent of animals infected with pathogenic bacteria.
j) Percent of animals infected with parasites.
k) Reproductive health.

One cannot make any determination of the superiority or inferiority of different farm and feed plans, vis-à-vis pasture and animal health, until a full scientific analysis of different farming systems is undertaken, including comparisons of animal health across all of the above measures for different farm plans, geographies, scales of operation, ages of animals, stages of production, etc.

We have not seen evidence that this analysis has been undertaken. Until the analysis is complete, any recommendation advocating "more" pasture is premature. We believe that NOSB and USDA both can play a vital role to bring forth existing science and to encourage the commissioning of new research to study this critical component of the organic dairy system. We recommend that, included in these activities is a broad multi-day conference on organic dairy research, where dairy researchers and industry stakeholders of all persuasions can come together to study, review and debate the existing science on the pasture issue.

Regarding consumer expectations, research to date from The Hartman Group, the Natural Marketing Institute, Datamonitor and other major consumer research organizations consistently shows that consumers have four major reasons for choosing organic products:

1. Human Health:
   - Desire to have better health over a longer period.
2. Food Safety:
   - Concern about foods produced with pesticides and other chemicals, and a desire to find alternatives.
3. Taste:
   - Positive associations with organic foods with the attributes of freshness and wholesome taste.
4. Environmental:
   - General concern about environmental health, and a desire to take positive action by supporting more environmentally-friendly products.

When consumers are asked more specifically about organic dairy, two additional benefits emerge:

5. Produced without synthetic hormones and antibiotics:
    - Consumers are concerned about the presence of these substances in milk and choose organic milk because it is produced without them.

6. Animal health and welfare:
    - Consumers are concerned about whether the animals are treated with humane practices and support organic farms, which follow those humane practices.

Other, more specific aspects of organic dairy farming and other farm practices, such as pasture, feed protocols, soils, etc., generally fall lower in consumer awareness than the six aspects outlined above. While some core organic consumers believe these more specific farming aspects to be of highest importance, the broader, more general range of all U.S. organic consumers find the six benefits of organic products and organic dairy outlined above to be of greatest importance.

Organic pasture management reflects a synthesis of crop and livestock production principles that works from the soil up to promote an interdependent community of plants and ruminants.

AOD:
Pasture management needs to be applied in a way that creates benefits to these inter-relationships in widely varying conditions. Under no circumstances should overly-prescriptive rules in pasture policy be instituted such as: a) requiring specific required days on pasture, or b) requiring specific percent of diet on pasture, because if applied without due consideration of the specific local conditions, these arbitrary dictates would demonstrably reduce the quality and health of these inter-relationships.

Organically managed pasture should produce the quantity and quality of edible plants suitable to the species, stage of production, and number of animals.

AOD:
It is important to maintain substantial interpretive latitude in the management of organic pasture and the quantity and quality of edible plants. Such latitude allows for the optimization of pasture management across a wide variety of farm systems, regions, geographies, soil types, rainfall patterns, native species, time of year, accessibility of pasture during different seasons, etc. A consideration of all of these measures is required to create a farm & feeding system that optimizes the quality of pasture and animal health.

Pasture assures a relationship between the animal and land that satisfies both organic principles and international standards for organic livestock.

AOD:
We recommend modifying the wording of this section to read:
"Pasture is one of several diet and animal-health components that, when used in an organic farm plan customized to each farm type, region, geography, soil type, climate, plant type and breed of animal, assures a relationship between the animal and land that can satisfy both organic principles and international standards for organic livestock."

We are seeking further comment as well for clarifications of the definition of pasture, more specificity on what constitutes "significant portion of the total feed" and any species-specific guidelines that may be suitable for a program that is national in scope.

AOD:
The process of seeking further comment is both commendable and necessary for good decision-making. The optimal procedure is to have all of the comments, clarifications, discussions and the like brought

forward by a wide range of organic dairy stakeholders; then have them discussed, debated and decided upon before, rather than after, the issuance of a final recommendation. In this regard, we recommend that NOSB conduct all of the "comment, clarification and discussion" activities listed above by the LC, combined with a significant study of scientific research, during several open forums. Included in these forums would be presentation of many different scientific papers by professionals in animal science, dairy science, veterinary science and agronomy, building a larger body of valuable and pertinent information prior to sending a final recommendation to USDA.

Regarding the issue of what ingredients should constitute "significant portion of total feed," this is a very important topic that is directly related to animal health. We will discuss our interpretation of the word "significant" later in this document. The LC's use of the term "more specificity" is problematic because it seems to imply "greater prescription." The need to optimize animal health, and to optimize it across widely varying conditions, means that "specificity" is exactly what is NOT wanted in organic animal-health management. To be specific is to be prescriptive, and to be prescriptive is to apply arbitrary guidelines that, in many cases, would lead to lowering of general animal health, not its improvement. For example, a study by Jones-Endsley et al., (1997) showed that when cows were switched to pasture without sufficient supplemental feed, animals lost an average of 55kg of body weight, and mean body-condition score decreased by 0.5 points. In addition, milk production decreased 52% over the 80-day test period, from 43 kg to 20.8 kg / cow / day. As another example, we have found that when pasture is particularly green and lush, such as following very wet weather, it tends to be lacking in total fiber. An overly-prescriptive pasture requirement could force the farmer to overuse this type of forage, resulting in digestive disorders. We also see the potential for over-grazing and depletion of pasture resources from an overly-prescriptive pasture requirement that does not provide for enough interpretive freedom to balance pasture growth with its consumption by the animal.

Under no conditions should guidelines be set that would force organic farmers and their certifiers to implement systems that would lower animal health and/or reduce the health and vitality of the pasture itself. Because the conditions across the United States vary so widely, we doubt that any prescriptive guidelines could be set that would lead universally to improved animal-health conditions.

Therefore, we strongly suggest that NOSB recommendations and NOP policy continue to allow interpretive latitude in considerations of pasture.

Recommendation

The NOSB recommends the following:

1. Organic System Plan.

Ruminant livestock shall graze pasture during the months of the year when pasture can provide edible forage.

AOD:
It is important to understand that there is considerable variation between regions, geographies, climates, soil types, plant species, rainfall types and other measures that impact the "months of the year" and the extent of "edible forage." NOP guidance needs to preserve high interpretive latitude to facilitate creation of successful organic farm plans across the myriad different conditions in U.S. organic agriculture. In all consideration, three principles must guide decision-making:

a) In all aspects of pasture management, maintaining optimum animal health should be paramount.
b) Interpretive latitude must be maintained to facilitate implementation of effective farm plans across widely varying conditions.
c) Guidance should be set to encourage the greatest possible growth and success of organic dairy and organic agriculture across all geographies and conditions to achieve the fullest promise of the organic movement.

The grazed feed must provide a significant portion of the total feed requirements.

AOD:
This section of the recommendation has two problems that need to be addressed. First, we are concerned about finding a workable definition of the word "significant." What constitutes "significant?" How does a farmer, or a certifier, or an animal health expert define "significant?" If significant means "more," it would lead to the erroneous conclusion that every animal on more pasture is healthier than every animal on less pasture. If significant is quantified by days on pasture, percent of time on pasture, percent of feed provided by pasture, or any similar arbitrary measure, then one could erroneously conclude that "higher" amounts of any of these measures would lead to improved animal health, which is not documented. Use of the term would also lead to the false conclusion that "lower" amounts of these measures lead to deteriorated animal health, which is not supported by the current body of research. If "significant" is not defined at all, then it stands merely as a statement of intent but provides no guidance to the farmer or the certifier. We question whether undefined statements of intent have any meaning or proper role in a USDA guidance document.

A second, large and complex problem exists relative to defining the "significance" of pasture, due to extreme variability in the nutritional content of pasture. This nutritional content varies in many aspects, including by season, geography, weather, moisture, soil type, plant species, rate of compaction, section of the field in question, movement habits of cows, etc. With so many different variables impacting and changing the nutritional content of pasture, its nutritional evaluation becomes quite problematic. The best method for quantifying the actual feed value of pasture is to cut several one-square-meter plots daily, dry the feed matter, and measure for nutritional quality. Very few organic dairy farmers have the time or resources available to perform these extensive tests. However, if pasture nutritional testing is not undertaken, producers will not be able to quantify the nutritional components to prove the "significance" of their pasture programs, except in a general, non-specific manner. We question whether an NOP-administered system should be put in place that sets expectations for pasture "significance" but does not create any tools for its monitoring or evaluation.

We recommend changing the wording to the following statement that places emphasis on the need to create an excellent diet for organic livestock:

"The grazed feed must provide the optimum portion of the total feed requirements to assure excellent animal health."

This statement actually is more directive to the farm plan, because the statement would require the farmer and the certifier to demonstrate that the mixture of pasture and other diet components creates the optimum diet for the animal, given the specifics of the farm, its location and geography, etc.

The Organic System Plan shall include a timeline showing how the producer will work to maximize the pasture component of total feed used in the farm system.

AOD:
In this section, as in the prior section, we would change the word "maximize" to "optimize." The reason for this recommended wording change is that, if the mandate were to "maximize" pasture component, under certain conditions it would force the dairy farmer to create an overall diet that is less than optimal for animal health. A much better plan would balance each feed component so that overall diet (and animal health) would be maintained at its highest nutritional level. Thus, we would recommend the following change in wording to this section:

"The Organic System Plan shall include a timeline showing how the producer will work to optimize the pasture component of the total feed used in the farm plan."

For livestock operations with ruminant animals, the operation's Organic System Plan shall describe: a) the amount of pasture provided per animal; b) the average amount of time that animals are grazed on a daily basis; c) the portion of the total feed requirement that will be provided from pasture; d) circumstances under which animals will be temporarily confined; and e) the records that are maintained to demonstrate compliance with pasture requirements.

AOD:
We have three thoughts on the above wording from the LC. First, the above steps are already being followed in some form by every farm and certifier, as part of the current farm plan documentation requirements. One cannot create a valid farm plan for certification if the above components are not addressed, even if they are not delineated with the specificity listed above.

Second, regarding any measuring requirement of the above wording, how and for what purpose would the recording of those measures be used? Are farms going to be audited for minimum compliance according to specific criteria? For example, would a farm with eight (8) hours on pasture "pass" while an operation with six (6) hours "fail?" Would a plan with 30% DMI from pasture be "good," while one with 20% be rated "bad?" Who would issue the passing and failing grades? Who would define good and bad? What would happen to "failing" or "bad" farms? Who monitors? Who regulates? Also, how would the intake from pasture be measured and evaluated on a daily basis, knowing that it is practically impossible to measure grass intake during grazing with any degree of accuracy? We are concerned about the lack of clarity in the recommendation as written, and we feel that the proposed language initiates a complex, confusing system of evaluation with no clear process or goal.

Finally, we recommend retaining the current method of farm-plan creation and audit, which invests authority and management power with the certifier, where it should optimally rest, and allows the certifier to determine whether the farm management plan meets the guidelines of the rule within the specific circumstances of that farm management plan.

2. <u>Temporary Confinement</u>.

Temporary confinement means the period of time when ruminant livestock are denied pasture. The length of temporary confinement will vary according to the conditions on which it is based (such as the duration of inclement weather) and instances of temporary confinement shall be the minimum time necessary. In no case shall temporary confinement be allowed as a continuous production system. All instances of temporary confinement shall be documented in the Organic System Plan and in records maintained by the operation.

AOD:
The overall intent of this section is good. However, we are concerned about the record-keeping burden its implementation could impose on producers. Organic dairy producers are already required to keep extensive records as part of the farm management plan. If the above section were to be implemented with significant additional record-keeping, this administrative burden would increase substantially. We request that the LC provide additional information on the nature of the record-keeping being proposed, its implementation, and a better sense of the desired outcome.

Temporary confinement is allowed only in the following situations:

a) During periods of inclement weather such as severe weather occurring over a period of a few days during the grazing season;

b) Conditions under which the health, safety, or well being of an individual animal could be jeopardized, including to restore the health of an individual animal or to prevent the spread of disease from an infected animal to other animals;

c) To protect soil or water quality; or

d) During a stage of production;

i. For ruminants, a "stage of production" that warrants temporary confinement from pasture include: a) birthing; b) dairy animals up to 6 months of age[1] and c) beef animals during the final finishing stage, not to exceed 120 days[2].

ii. Lactation of dairy animals is not a stage of production under which animals may be denied pasture for grazing.

AOD:

We have two fundamental concerns about the "temporary confinement" section. First, Section 205.239 of the Rule specifies livestock living conditions in two parallel areas – access to outdoors and access to pasture. It is clear from reading the Section 205.239 that the intent of the rule is to treat each area of access as an equal part of the "whole" in effective farm management. We are concerned that the NOSB recommendations for these two areas of management are treated inconsistently and have not been considered together to form a consistent guidance to certifiers.

In a nutshell, the pasture recommendation is considerably more prescriptive and restrictive than the outdoor access policy document. For example, the outdoor access policy does not delineate any specific requirement for: a) documenting number of days in the outdoors, b) average time outdoors on a daily basis, c) portion of total time spent outdoors, d) circumstances under which an animal can be temporarily indoors, or e) records maintained to demonstrate compliance with outdoor access requirements. The pasture recommendation contains all of these requirements. Nor does the outdoor access policy specify that instances of temporary indoor confinement shall be the minimum time necessary, such as is required in the pasture recommendation.

In addition, the outdoor access policy does not require documentation of specific instances of temporary indoor confinement in the Organic System Plan, which is required in the pasture recommendation. Finally, the outdoor access policy invites the producer and the certifier to use experience and judgment to implement a workable organic plan for outdoor access, which is clearly an example of allowing interpretive freedom on the part of the producer and the certifier. The access to pasture recommendation includes no such language and no such call for interpretation on the part of the producer and the certifier.

Therefore, we question the lack of uniformity in policy and intent between the pasture recommendation and the outside access policy, two closely-related and equally-important parts of Section 205.239. Since the outdoor access policy has already been implemented to general agreement by the industry, we recommend that its language and support for interpretive freedom between the producer and the certifier be mirrored in the pasture recommendation.

Also, an inconsistency exists in the "stage of production" allowance for temporary confinement as it relates to dairy cows vs. beef cattle. In the case of beef cattle, the provision allows for 120 days temporary confinement for final finishing, which is not an animal health issue, but rather, a "profit and productivity" issue. Organic beef cattle are finished in temporary confinement to make them larger, of better sales grade, and more productive and profitable for the rancher. Thus, the final finishing provision allows temporary confinement for reasons of farm productivity and profit.

If the same rational – productivity and profit – is used to justify temporary confinement of dairy cows, many organic dairy farmers will choose to keep lactating cows with a greater proportion of TMR or similar feed ration and a lesser proportion of pasture. In so doing, the productivity and profit of the dairy farmer will be increased, just as they are for the beef rancher. Of significant note, there is also a strong animal health rationale for keeping lactating cows on a balanced feed ration, which is to provide a diet better able to meet the high energy needs of lactation. Conversely, for beef cattle the temporary

[1] The NOSB recommends 6 months for young animals to allow for weaning and prevention of parasites.

[2] The NOSB recommends 120 days for the finishing of bovines based on comments received from beef producers who indicated that 120 days is the amount of time needed to achieve "choice" grades of beef.

confinement for finishing is purely economic in nature. However, lactation is expressly forbidden as an allowed stage of production for temporary confinement in dairy, even though it addresses the same productivity and profit issue as the finishing of beef.

We recommend eliminating this inconsistency from the pasture recommendation.

In summary, there are many portions of the LC pasture recommendation with which we agree. There are other portions for which we recommend modifications. In all, we recommend that extensive scientific documentation should accompany and support all parts of this recommendation prior to its final implementation, with animal health always paramount in importance. We also recommend that the LC adhere to the already-proven NOP policy of maintaining interpretive freedom – a policy that has worked successfully for producers and certifiers both in the overall implementation of the NOP and in the specific instance of the outdoor access policy. We look forward to learning from other organic stakeholders about their analysis of the LC recommendation. Finally, we are appreciative of the collective discussion and debate of the issues – a discussion that will result in a final recommendation that works successfully for all members of the organic dairy community.

Persons with questions or comments should feel free to contact:

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CFD 2-24-05